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<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/055,547	TRAVERSAT ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Ranodhi Serrao	2141	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 03 July 2007.
2. ☒ The allowed claim(s) is/are 1-20,22-43,45-81,83-86 and 88-99.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

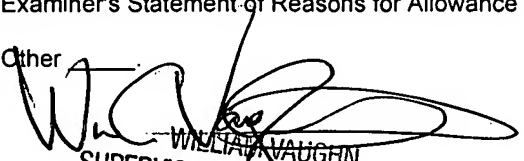
Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material

5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other

  
WILLIAM VAUGHN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100

***Interview Summary***

1. A proposed amendment was submitted for applicant's consideration. Examiner suggested the Applicant to amend claims as shown in the Examiner's Amendment below in order to place the application in condition for allowance.

***Examiner's Amendment***

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

3. Authorization for this examiner's amendment was given in a telephone interview with the Applicant's Representative, Mr. Robert C. Kowert (Reg. No. 39,255), on 4 September 2007.

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**IN THE CLAIMS:**

Please amend claims 2, 13, 28, 39, 45, 46, 52, 62, 71, 79, 86, 91, 98 and cancel claims 44 and 87 as below:

**Claim 2. (Currently amended)** The peer-to-peer network environment as recited in claim 1, wherein said common set of services comprises a membership service, wherein said membership service implements said membership protocol for joining a

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peer group [[such that]] **for allowing** any peer in the peer-to-peer network environment [[may]] **to** apply for membership in the peer group in accordance with the membership protocol.

**Claim 13. (Currently amended)** The peer-to-peer network environment as recited in claim 12, wherein said plurality of peer group members providing redundant instances of said network service or content are configured to provide a fail-over mechanism wherein if one of the peers providing said network service or content fails or leaves said peer group, said network service or content [[may]] **can** be obtained from another one of the peers providing said network service or content.

**Claim 28. (Currently amended)** The peer node as recited in claim 20, wherein said common set of services comprises a membership service, wherein said membership service implements the membership protocol for joining said peer group [[such that]] **for allowing** any peer node [[may]] **to** apply for membership in said peer group in accordance with the membership protocol.

**Claim 39. (Currently amended)** A peer node, comprising:

- a processor;
- a network interface operable to couple the peer node to a network;
- a memory operable to store program instructions, wherein the program instructions are executable by the processor to:

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create an advertisement for a peer group in accordance with a protocol,  
wherein said advertisement for the peer group comprises:  
an identifier for the peer group;  
a description of a common set of services to be instantiated within  
the peer group by members of the peer group; and  
a membership service advertisement indicating how other peers [[may]]  
**are allowed to** request to join the peer group; and  
publish at least a portion of said advertisement for the peer group  
including said identifier and said membership service  
advertisement; **and**  
**wherein said program instructions are further executable to instantiate a**  
**membership service,**  
**wherein said membership service implements a membership protocol for**  
**joining said peer group for allowing any peer node to apply for**  
**membership in said peer group in accordance with the membership**  
**protocol.**

**Claim 44. (Canceled)**

**Claim 45. (Currently amended)** The peer node as recited in claim [[44]] **39**, wherein  
said membership service implements a membership policy for said peer group  
restricting which peers are allowed to join said peer group.

**Claim 46. (Currently amended)** The peer node as recited in claim [[44]] 39, wherein said membership service is operable to:

receive an apply message from a potential new peer group member, wherein said apply message is formatted as defined by said membership protocol;

respond to said apply message with a first acknowledge message formatted as defined by said membership protocol, wherein if the potential new peer group member is qualified to apply in accordance with the membership policy for said peer group, the first acknowledge message comprises an application credential;

receive a join message including the application credential from the potential new peer group member, wherein said join message is formatted as defined by said membership protocol; and

respond to said join message with a second acknowledge message formatted as defined by said membership protocol, wherein if the potential new peer group member is qualified to join in accordance with the membership policy for said peer group, the second acknowledge message comprises a membership credential identifying the peer node as a peer group member and a peer group advertisement for said peer group describing the common set of services available to member peers of said peer group.

**Claim 52. (Currently amended)** The peer computing system as recited in claim 50, wherein each peer group advertisement comprises:

- an identifier for the particular peer group;
- a description of a common set of services to be instantiated within the particular peer group by members of the particular peer group;
- a membership service advertisement indicating how other peers [[may]] **are allowed to** request to join the particular peer group; and
- a name associated with the particular peer group.

**Claim 62. (Currently amended)** The peer computing system as recited in claim 61, wherein each peer group advertisement comprises:

- an identifier for the particular peer group;
- a description of a common set of services to be instantiated within the particular peer group by members of the particular peer group;
- a membership service advertisement indicating how other peers [[may]] **are allowed to** request to join the particular peer group; and
- a name associated with the particular peer group.

**Claim 71. (Currently amended)** The method as recited in claim 70, wherein the common set of services comprises a membership service, wherein said membership service implements the membership protocol for joining the particular peer group

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[[such that]] **for allowing** any peer in the peer-to-peer network environment [[may]] **to** apply for membership in the particular peer group in accordance with the membership protocol.

**Claim 79. (Currently amended)** The method as recited in claim 78, further comprising a member peer of the particular peer group accessing one of the redundant instances of a network service, wherein, if the network service fails or a particular member peer hosting the instance of the network service leaves the particular peer group, said network service or content [[may]] **can** be obtained from another one of the redundant instances of the network service.

**Claim 86. (Currently amended)** A method, comprising:

a peer node creating an advertisement for a peer group, wherein said

advertisement for the peer group comprises:

an identifier for the peer group;

a description of a common set of services to be instantiated within the peer group by members of the peer group; and

a membership service advertisement indicating how other peers [[may]] **are allowed to** request to join the peer group; and

a peer node publishing, in accordance with a discovery protocol, at least a portion of said advertisement for the peer group including said identifier and said membership service advertisement; **and**

**the peer node further instantiating a membership service, wherein said membership service implements a membership protocol for joining the peer group for allowing any peer node to apply for membership in the peer group in accordance with the membership protocol.**

**Claim 87. (Cancelled)**

**Claim 91. (Currently amended)** The method as recited in claim 90, wherein said advertisement for the peer group comprises:

- an identifier for said peer group;
- a description of a common set of services to be instantiated within said peer group by members of said peer group; and
- a membership service advertisement indicating how other peers [[may]] are allowed to request to join said peer group<sub>[[;]]</sub>.

**Claim 98. (Currently amended)** A tangible, computer-readable storage medium comprising program instructions, wherein the program instructions are computer-executable to implement:

- a peer node creating an advertisement for a peer group, wherein said advertisement for the peer group comprises:
  - an identifier for the peer group;



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a description of a common set of services to be instantiated within the peer group by members of the peer group; and

a membership service advertisement indicating how other peers [[may]] are **allowed to** request to join the peer group; and

a peer node publishing, in accordance with a discovery protocol, at least a portion of said advertisement for the peer group including said identifier and said membership service advertisement ; **and**

**the peer node further instantiating a membership service, wherein said membership service implements a membership protocol for joining the peer group for allowing any peer node to apply for membership in the peer group in accordance with the membership protocol.**

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***Allowable Subject Matter***

4. Claims 1-20, 22-43, 45-81, 83-86, and 88-99 are allowed. The following is an examiner's statement of reasons for allowance: In interpreting the claims, in light of the specification and the examiner's amendments authorized on 4 September 2007, the Examiner finds the claimed invention to be patentably distinct from the prior art of record.

5. **Zhang (6,810,259)** teaches a location update protocol is provided for use in a mobile communications network having a distributed cache for managing subscriber

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profile information associated with each of a plurality of subscribers of the network. The network includes a plurality of base stations each including a memory unit having a local database for storing: a local subscriber list including a plurality of locally owned cache entries each having an associated subscriber key value, and an associated locally owned subscriber profile; and a global subscriber list including a plurality of global cache entries each having an associated subscriber key value, and an associated location value indicating a node in the network at which an associated subscriber profile is stored. Each of the base stations is operative to transfer and copy selected ones of the cache entries to other ones of the base stations for the purposes of managing and accessing the distributed cache. Each of the base stations is further operative to access an associated mirror base station list indicating at least one associated mirror one of the base stations. The local database of each of the base stations further provides for storage of a mirror subscriber profile list including a plurality of mirror cache entries each having an associated subscriber key value, and an associated mirror subscriber profile. Each of the base stations transfers mirror copies of the associated locally owned cache entries to each of the associated mirror base stations in accordance with the protocol (**Zhang, Abstract, Figure 3A, and corresponding text**).

6. **Rochberger et al. (6,456,600)** teaches a method of calculating a complex node representation for logical nodes in a hierarchical peer group in a PNNI based ATM network. The summary information for default spokes, exceptions and bypasses is determined in a way that closely represents the underlying metrics associated with the peer group. A list of all border nodes in the peer group is generated and maintained and

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a matrix of tables is generated, one table for each metric per each class of service. The table is populated by the best value associated with the corresponding metric for a particular pair of border nodes within a particular class of service. Once the table is populated, each element is placed in a group or bin. The bins are generated by dividing the full range of the metric into a plurality of smaller subgroups or bins. The bin having a count greater than a threshold count is selected and 80% of the worst value for that group is used as the default spoke. If no bin exists having at least a threshold count, the number of bins is reduced by one and a new set of subranges is calculated. The elements of the table are placed in the newly divided bins and a scan is performed once again **(Rochberger et al., Abstract, Figure 1, and corresponding text)**.

7. **Weisman et al. (2002/0112058)** teaches a device hosting framework provides hosting for software-implemented logical devices (including peripheral devices bridges) on a computer to expose their services as controlled devices per a peer networking protocol. The device hosting framework encapsulates discovery, description and control protocol operations of the peer networking protocol, which frees the developers of the hosted devices from having to individually implement the peer networking protocol in the hosted devices' software and need implement only the core functionality of the hosted device. The device hosting framework operates as a host supporting device interoperability via the peer networking protocol for multiple hosted devices **(Weisman, Abstract, Figure 2, and corresponding text)**.

8. **Dutta et al. (2002/0073075)** teaches a method and system for augmenting conventional search engine results with peer-to-peer search results. Rather than relying

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solely on an index search in a database that has only indexed a minor portion of the entire World Wide Web, a server-based, peer-to-peer search is initiated in conjunction with the index search. The results from both search processes can be combined so that the user receives an augmented search result with more information than a search result from either process by itself. The entities that are involved in the search can also establish financially rewarding relationships. The server operator agrees to share a percentage of its revenue with peer-to-peer nodes as an incentive to join its registered set of root nodes and expand its peer-to-peer connections. The identified sources of information that provided the search hits can be used by the operator of the search engine in a compensation transaction. While these compensation transactions may be monetary in nature, other compensation schemes may be used, such as reward program points, coupons, micropayments, cashbacks, rebates, frequent flyer miles, etc. The registered operator/owner can supply a indication as to the preferred type of compensation. In addition, information such as a bank account number, reward program account number, etc., may be needed to complete the compensation transaction **(Dutta, Abstract, Figure 4, and corresponding text).**

9. However, the prior art of record fail to teach or suggest individually or in combination:

10. A peer-to-peer network environment, comprising: a plurality of peer groups, wherein each peer group comprises a plurality of peer group members, and wherein each peer group member comprises a network node configured to communicate with other members of its peer group over one or more networks; and **a plurality of peer**

**nodes configured to participate in a peer discovery protocol to discover other****peer nodes and to discover one or more of the plurality of peer groups,** wherein

said discovering one or more of the plurality of peer groups comprises discovering one or more peer group advertisements for the one or more of the plurality of peer groups; a subset of said plurality of peer nodes configured to participate in a membership protocol for joining said discovered peer groups; wherein each peer group defines a common set of services available to members of that peer group; and wherein a plurality of members of One of said plurality of peer groups are configured to share a network service or content with other members of said peer group only, so that said peer group defines a limited domain of availability for said network service or said content as set forth in independent claims 1, 50, 61, 70, 80, 86, 90, and 96-99.

11. A peer node, comprising: a processor; a network interface operable to couple the peer node to a network; a memory operable to store program instructions, wherein the program instructions are executable by the processor to: join a peer group in accordance with a membership protocol; upon joining said peer group, instantiate one or more of a common set of services defined for said peer group; and share a network service or content with other members of said peer group only, so that said peer group defines a limited domain of availability for said network service or said content; wherein, in said joining said peer group, the program instructions are further executable to: send an apply message to said peer group, wherein said apply message is formatted in accordance with said membership protocol; **receive a first acknowledge message formatted in accordance with said membership protocol in response to the apply**

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**message, wherein the first acknowledge message comprises an application**

**credential**; send a join message including the application credential to said peer group, wherein said join message is formatted in accordance with said membership protocol; and receive a second acknowledge message formatted in accordance with said membership protocol in response to said join message, the second acknowledge message comprises a membership credential and a peer group advertisement for said peer group, wherein the peer group advertisement includes information about the common set of services available to members of said peer group as set forth in independent claim 20.

12. A peer node, comprising: a processor; a network interface operable to couple the peer node to a network; a memory operable to store program instructions, wherein the program instructions are executable by the processor to: create an advertisement for a peer group in accordance with a protocol, wherein said advertisement for the peer group comprises: an identifier for the peer group; a description of a common set of services to be instantiated within the peer group by members of the peer group; and a membership service advertisement indicating how other peers are allowed to request to join the peer group; and publish at least a portion of said advertisement for the peer group including said identifier and said membership service advertisement; and **wherein said program instructions are further executable to instantiate a membership service, wherein said membership service implements a membership protocol for joining said peer group for allowing any peer node to**

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**apply for membership in said peer group in accordance with the membership protocol** as set forth in independent claim 39.

13. Claims 1-20, 22-43, 45-81, 83-86, and 88-99 are allowed because of the combination of other limitations and limitations listed above.

14. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

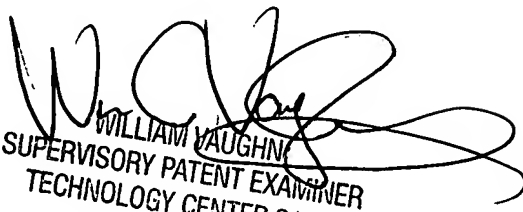
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ranodhi Serrao whose telephone number is (571)272-7967. The examiner can normally be reached on 8:00-4:30pm, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharia can be reached on (571)272-3880. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RNS  
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9/13/2007

  
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